

REMARKS

The present amendment is submitted in response to the Office Action dated December 7, 2006. Claims 1-4, 6-13, 15, 16 and 18-21 are currently pending in the application. Claims 1, 10, 20 and 21 have been amended and Claims 5, 14 and 17 have been canceled. Applicant would like to specifically draw Examiner's attention to newly amended Claims 1, 10, 20 and 21 that incorporate the subject matter of Claims 5 and 14. No new matter or issues are believed to have been introduced by this amendment. In view of the above amendments and the following remarks, reconsideration and allowance of this application are respectfully requested.

Claim Rejections – 35 U.S.C. § 103

In the Office Action, Claims 1-3, 5-12 and 14-21 were rejected under 35 USC §103(a) as being unpatentable over Gines (USPN 6,033,399) in view of Belt (USPN 4,191,188). The Examiner states that Gines fails to “disclose altering the duty cycle to adjust the crest factor,” but cites Belt, as disclosing “a system that alters the crest factor and output power by changing the duty cycle.” (Office Action, page 3).

Belt only discloses manual adjustment of the crest factor. More specifically, Belt discloses timing circuitry for adjusting crest factor of a waveform by altering the duty cycle thereof. Belt does not disclose making adjustments to the crest factor using any processing or control circuitry using algorithms. Belt discloses a control circuit including a zero voltage detector 20, a first timer 22, a second timer 24. (Belt, col. 4, lines 59-61). A duty cycle control 26 is connected to the first timer 22 and the second timer 24 to “simultaneously and proportionally vary the timing intervals of the first and second timers.” A potentiometer 80 is connected in series to the first and second timers 22, 24

wherein manual adjustment of the potentiometer varies the duration of pulses (e.g., duty cycle). (Id., col. 8, line 58 – col. 9, line 4). In particular, the potentiometer 80 includes a movable tap connected to the source as shown in Fig. 12, which only allows for manual adjustment of the duty cycle. Thus, in Belt, duty cycle is controlled in response to manual adjustment of the potentiometer 80.

The Examiner also agrees with this assertion by stating that Belt only discloses “a means to manually adjust the crest factor of the system.” (Office Action, page 3). Newly amended independent Claim 1 discloses “a processing unit for ... transmitting at least one waveform adjustment signal ... wherein said at least one waveform adjustment signal includes data to alter the duty cycle of the at least one waveform generated by the waveform generator in accordance with the following formula: $CF = [(1-D)/D]^{1/2}$, wherein D is the duty cycle and CF is the crest factor of the generated waveform.” In contrast with the present application, and as disclosed in Belt, adjustments to the duty cycle and, hence, control of the crest factor are not performed automatically based on control signals, as recited in independent Claim 1. The Applicant respectfully disagrees with the Examiner’s assertion that “any reasonable formula for arriving at the crest factor using an algorithm involving the duty cycle would be within the purview of the skilled artisan.” The criticality associated with Applicant’s formula is that the formula allows the processing unit to adjust the crest factor automatically, which is not taught or even remotely suggested by Belt since Belt only discloses a manual means for adjusting the crest factor. Moreover, the automatic control of the crest factor provides for continuous and real-time adjustment of the waveform, which greatly enhances dynamic response of the generator. Accordingly, the rejection under 35 U.S.C. 103(a) of independent Claim 1 and Claims 2, 3 and 6-9 that depend therefrom should be withdrawn.

Independent Claims 10, 20 and 21 include similar recitations as newly amended Claim 1, namely, “wherein said at least one waveform adjustment signal includes data to alter the duty cycle

of the at least one waveform generated by the waveform generator in accordance with the following formula: $CF = [(1-D)/D]^{1/2}$, wherein D is the duty cycle and CF is the crest factor of the generated waveform.” For at least analogous reasons discussed above with regard to independent Claim 1, it is respectfully submitted that independent Claims 10, 20 and 21 are also not anticipated by Gines. Accordingly, the rejection under 35 USC 103(a) of Claims 10, 20 and 21 and Claims 11, 12, and 14-19 that respectively depend therefrom should also be withdrawn.

Claims 4 and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gines in view of Belt and in further view of Carder (USPN 4,961,047). Carder discloses an electrosurgery apparatus having an amplifier controlled by voltage and current signals. The signals are used to address a look-up table to obtain a corresponding impedance measurement. (Carder, Abstract). Carder, however, does not disclose adjustment of either crest factor or duty cycle of a waveform or doing so automatically. Further, these terms are not even mentioned in the disclosure. The described power control scheme does not disclose altering the duty cycle to adjust the crest factor of the at least one waveform based on impedance measurements and is only directed to adjusting the output power. Accordingly, the rejection under 35 U.S.C. 103(a) of Claims 4 and 13 that depend from Claims 1 and 10 respectively, should be withdrawn since Carder in no way teaches or even remotely suggests applicant’s claimed invention.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration of the application and allowance of all pending claims is earnestly solicited.

Should the Examiner believe that a telephone interview may facilitate prosecution of this application, the Examiner is respectfully requested to telephone Applicant's undersigned representative at the number indicated below.

Please charge any deficiency as well as any other fee(s) that may become due under 37 C.F.R. § 1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s), to Deposit Account No. 21-0550.

Respectfully submitted.



Thomas A. Beaton
Reg. No. 46,543
Attorney for Applicant

Date: 3/7/07

UNITED STATES SURGICAL

A DIVISION OF TYCO HEALTHCARE GROUP LP
195 McDermott Road
North Haven, CT 06473
(303) 581-6831